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(71) Applicant *(for all designated States except US)*: MOTOROLA LIMITED [GB/GB]; Jays Close, Viables Industrial Estate, Basingstoke, Hampshire RG22 4PD (GB).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: WHINNETT, Nicholas, William [GB/FR]; 7, rue de la Cerisale, F-75004 Paris (FR). ROBINSON, William, Neil [GB/FR]; 6, allée du Plantier du Roi, F-78860 Saint Nom la Breteche (FR). GIBBS, Jonathan, Alastair [GB/GB]; 56 Malvern Gardens, Hedge End, Southampton, Hampshire SO30 2UL (GB).

(74) Agents: DEARLING, Bruce et al.; Motorola, European Intellectual Property Operations, Midpoint, Alencon Link, Basingstoke, Hampshire RG21 7PL (GB).

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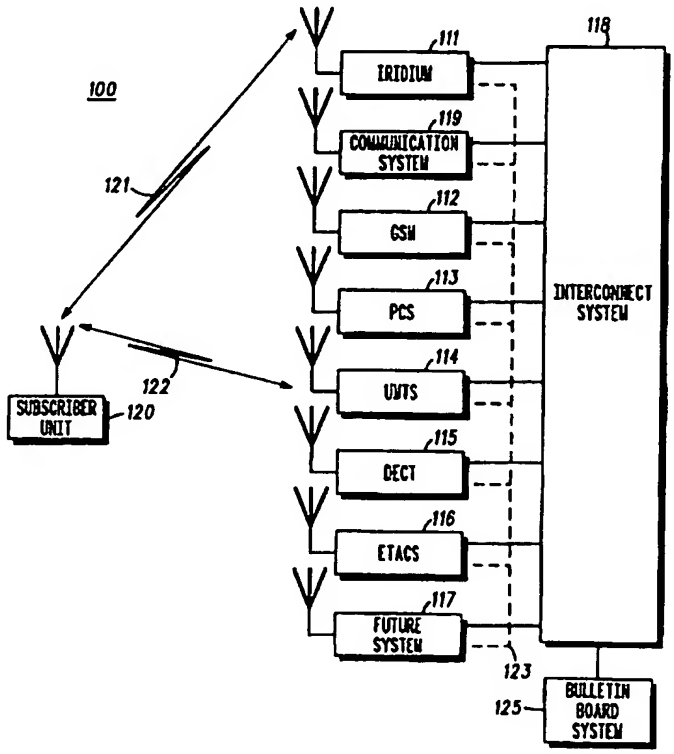
(57) Abstract

A common communications system (119) provides information regarding the availability of other local communication systems (111-117) within the common communications system coverage area to a generic, programmable subscriber unit (120). Geographical location information is then supplied to the common communications system (119) indicating position of the subscriber unit (120). The geographic information is used by either the common communication system (119) or subscriber unit (120) to provide information pertinent only to one or more local communications systems (111-117) that the subscriber unit (120) may select. The common communication system (119) or the subscriber unit (120) can also be used to selectively filter or extract information such that the information presented to the user is related to the geographical location. The subscriber unit (120) then selects one of the local communications systems (111-117) and receives enabling programming from that local communication system. The enabling programming permits the subscriber unit (120) to configure itself to operate on the selected communication system.



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COMMUNICATIONS OPERATING SYSTEM AND METHOD THEREFOR

The present invention relates, in general, to communication systems and, more particularly, to a communications operating system and method therefor.

Within the past several years, radio frequency (RF) communication systems have gone from a very limited number of systems, each available for one type of function, to a vast number of potential systems available for providing the same type of basic service. For example, cellular communication systems began in Europe with the Nordic Mobile Telephone (NMT) system. At the time, this was the only system which provided mobile dial-up telephone operations. Since its introduction, newer analog systems have been introduced, such as Total Access Communication System (TACS), and, more recently digital systems such as the Groupe Spécial Mobile (GSM) (now commonly referred to as the Global System for Mobile communications), DCS-1800 (Digital Cellar System), CT-2 (Cordless Telephone), and DECT (Digital European Cordless Telephone) systems. Further, there are considerable numbers of systems each serving a specific customer service demand such as the European Radio Messaging System (ERMES) for paging and Ministry of Posts and Telecommunications standard MPT 1327 (A Signalling Standard to Trunked Private Land Mobile Radio Systems) for private mobile radio applications. These systems often overlap in their coverage areas, thereby giving users an option as to which system to select.

There is also a proliferation of new systems being developed, such as the American Digital Cellular (ADC), referred to as Interim Standard 54 (IS-54), and a Personal Digital Cellular (PDC) standard being developed in Japan, referred to as the RCR (Research & Development Center for Radio Systems) standard 27. There is also a Code Division Multiple Access (IS-95) system being developed as a higher capacity/higher quality alternative to the existing systems. In addition to what is normally considered cellular, there are a number of Personal Communication Systems (PCS) and wireless local loop systems being developed that are all competing for customers. Some of these systems will be based on existing protocols (such as the DCS-1900 (Digital Cellular System) being based upon GSM). Also, some previous land mobile trunking systems offer dial-up telephony services. One future system

currently under design is the Future Land Mobile Public Telephone System (FLMPTS).

However, one problem for the end user is that to be able to go anywhere in the world and use a subscriber unit, the user would need to carry a dozen or more subscriber units since one unit will not operate on all of the systems. By way of example, even though GSM and ADC operate on similar Time Division Multiple Access (TDMA) technologies, there is presently no way to take your GSM phone to America and have it operate on an ADC system.

In addition, even within the same system, the mobile owned by a user may have limitations built in during its original programming that prevent it from using features subsequently developed for a particular system. While there are some subscriber units available today that can be returned and reprogrammed (either electronically or by replacing some of the memory devices containing the programming), the user often finds themselves with a subscriber unit that has become obsolete in just a short time.

A related invention is found in "Bulletin Board Resource for Communication System Access" (US-A-5,301,359) invented by VandenHuevel et al. and assigned to Motorola Inc. This invention describes a method of providing information regarding communication system capabilities for multiple, independent RF communication systems. The method comprises the steps of monitoring an RF bulletin board that is independent of the multiple, independent RF communication systems; and receiving information from the RF bulletin board regarding the multiple RF communication systems. The system providing the RF bulletin board is called the "bulletin board system" or "common communications system".

Another type of system is described in EP-A2-0 365 200, Majbudar et al. This application describes a telecommunication system in which a subscriber (which includes a touch screen display and a customer premises computer) can, by use of the computer, transmit a request to a central office to provide an appropriate software package to activate a feature of the phone. This application is similar, and in fact uses, a standard ISDN process to transfer a program from one computer to another. The result then is that while certain features in the phone may be activated, it does not address the issue of providing access to multiple communication systems operating using different protocols.

The bulletin board system provides a subscriber unit with information about systems and services within the coverage area of the

bulletin board system. It can be expected that there will be a mismatch between the coverage area of the bulletin board and the coverage area of the communications system with which the subscriber unit will eventually communicate. This mismatch can come about when a bulletin board provider uses a wholly different radio infrastructure than the target system communications system. An example of this would be where the bulletin board system is provided by a satellite system, such as Iridium and the target system is a national cellular system, such as GSM.

Although it may be technically possible to provide a close match between the bulletin board system coverage area and the target system coverage area, this may be challenging to engineer and/or consume valuable spectrum resources from the target system. A user will want to know about services local to him, however the bulletin board operator will not want to deploy equipment at many small cell sites. This problem is especially relevant where an operator provides bulletin board information on behalf of other operators.

For reasons of efficiency, the bulletin board system should only provide information about a specific target or local communications system to subscriber units which are in the vicinity of that target system. In effect, the bulletin board system should be capable of mimicking the coverage area of a particular target communications system when providing information about that local communications system to subscribers.

Thus, a problem exists in providing only relevant bulletin board information from a wide area bulletin board provider to a subscriber unit that is only pertinent to the geographic location of the subscriber unit.

According to a first aspect of the present invention, there is provided a method of operating a subscriber unit to access a preferred local communication system, said method characterized by the steps of accessing a common communication system; receiving communication system information from said common communication system about at least one local communication system within the common communication system's coverage area; determining the geographic location of the subscriber unit; and filtering the communication system information to identify the preferred local communication system that is available in the geographic location of the subscriber unit; and presenting the filtered information to the subscriber unit.

According to a second aspect of the present invention, there is provided a method of operating a common communication system controller to inform at least one subscriber unit of local communication system information, said method comprising the steps of identifying the geographic location of the at least one subscriber unit; determining if the at least one subscriber unit is configured to support a local communication system in the geographic location in which the at least one subscriber unit is located; and presenting selective local communication system information to the at least one subscriber unit based on the geographic location.

According to a third aspect of the present invention, there is provided a configurable subscriber communications unit operable in at least one local communications system and receiving general information from a common communications system, comprising: a receiver; a transmitter; a memory circuit; and a controller, characterised in that the controller is coupled to the transmitter, the receiver, and the memory circuit, the controller responsive to the information received from the receiver to identify the geographic location of the subscriber communications unit, and the controller using the geographic location to selectively extract information from the general information such that only pertinent information relating to the at least one local communications system for the geographic location is presented to a user.

According to a fourth aspect of the present invention, there is provided a common communication system for providing information on at least one local communications system, comprising a receiver; a transmitter; a memory; and a controller, characterised in that the controller is coupled to the receiver, the transmitter and the memory, the controller receiving geographic information for determining the geographic location of a subscriber terminal, and communicating operating information to the subscriber terminal for enabling operation of the subscriber terminal in the at least one local communication system where the subscriber terminal is located.

Other preferred features and advantages will become apparent from accompanying dependent claims 2 to 7, 9 to 13 and 16 and the following description.

The invention will now be described in more detail, by way of example, with reference to the accompanying drawings, in which:

FIG. 1 is a block diagram of a network utilizing the present invention;

FIG. 2 is a flow chart illustrating a process embodying the present invention;

FIG. 3 is a flow chart illustrating a subprocess of the receiving system requirements process shown in FIG. 2.

FIG. 4 is a flow chart illustrating a subprocess of the process illustrated in FIG. 2;

FIG. 5 is a more detailed block diagram of the common communication system of FIG. 1;

FIG. 6 is a more detailed block diagram of the subscriber unit of FIG. 1;

FIG.s 7 and 8 illustrate designs of a subscriber unit which may potentially utilize the present invention.

Referring initially to FIG. 1, a block diagram of a network, generally designated 100, utilizing the present invention is illustrated. In network 100, there are a plurality of communication systems 111-117 all coupled through an interconnect or wireline system 118 to a common communication system 119, the system 119 being connected to a Bulletin board system 125. Interconnect system 118 would potentially be a wireline system, such as an Integrated Services Digital Network (ISDN). The systems may also be directly connected along line 123.

In FIG. 1, a subscriber 120 is seeking access to one of the local communication systems 111-117 in network 100. To accomplish this task, subscriber 120 will first access common communication system 119 using a channel 121. Common communication system 119 will then reply to subscriber 120 with a list of local communications systems available for use in network 100. Along with the list of available local communication systems, system 119 may also provide information on types of features available and on system costs. All information is collectively referred to as bulletin board information.

In order to insure that only pertinent information is transmitted to the subscriber 120, related to one or more of the communications systems 111-117, information or data relating to geographic location of the subscriber 120 is used to extract the appropriate information. The bulletin board system 125 operates with the interconnect system 118, to provide service information relating to one or more of the communications systems 111-117.

Thus, in order to ensure that only selective and relevant bulletin board information is given to a subscriber 120, even though much more bulletin board information is available, the bulletin board system 119 can give the proper information when combined with a geo-location capability. This allows a bulletin board operator to deploy wide area channels but to use the geo-location information to provide information pertaining to target systems which are available at the location of the subscriber 120. The bulletin board system 119 has stored information describing the coverage areas of the various communications systems 111-117 that are available.

In order to utilize the geo-location information with the bulletin board information, to ensure that only pertinent information is sent to the subscriber 120, two embodiments are possible. In the first embodiment, a bulletin board cellular information service is utilized which includes a plurality of bulletin board cells. Each bulletin board cell broadcasts all the bulletin board information about communications systems 111-117 that are available within the coverage area of the bulletin board cell.

This information includes data regarding the coverage areas of the target systems. In order to ensure that only relevant information is received, the subscriber 120 uses information from it's own geo-location process together with the coverage areas of the various possible local communications systems 111-117, as provided by the bulletin board cell broadcast, to determine which systems are locally available. Thus, the subscriber 120 selectively filters and separates the bulletin board information so that only pertinent bulletin board information regarding local communications systems 111-117 is displayed to the user and/or used for system selection. The subscriber 120 then selects an appropriate local communication system 111-117 and acquires the necessary information from the bulletin board cell to enable the subscriber 120 to access the selected local communications system 111-117.

In the second embodiment, the subscriber 120 performs the geo-location process and informs the bulletin board system 119 of the subscriber unit's geographical location. The bulletin board system 119 then uses this location information in conjunction with the information about the respective coverage areas of the various target or local communications systems 111-117. The bulletin board system 119 then

provides the appropriate filtering to extract irrelevant bulletin board information. The bulletin board system 119 subsequently informs the subscriber 120 about each candidate local communications system 111-117 for which the subscriber 120 falls inside the coverage area as defined by the bulletin board system 119.

The subscriber 120 then selects a suitable local communications system 111-117 and acquires the necessary information from the bulletin board system 119 to access the selected target communication system 111-117. This embodiment uses non-broadcast, point to point information transfer for the process of informing the subscriber 120 of the possible local communications systems 111-117. As will be evident to those skilled in the art, the choice of implementation will depend on the cell sizes and the number of subscriber units 120 and will be made to minimize spectrum requirements for given performance.

In order to provide geographical information to the bulletin board service, a location function will be used. The location function may be active or passive. For example, an active technique may use timing advance information from a number of simultaneously observed transmitters, or an active geo-location technique from mobile satellite system (MSS). A passive technique includes both LORAN or GPS services that passively supply highly accurate global positioning information directly to a receiver without Doppler calculations or the like. It should also be recognized that the infrastructure for geo-location and positioning may be the same as that which provides the bulletin board services.

Depending on the geo-location technique employed, there may be uncertainty as to the exact location. For example, some techniques may only be accurate to within +/- 25km, whereas others can be accurate to less than 100m. The tolerance on the location information must be known in order that possible local communications systems 111-117 are not falsely eliminated from the selection process. Clearly, the more the uncertainty of the outcome of the geo-location process, the less valuable this technique will be. However, so long as the area of location uncertainty is significantly smaller than the size of the bulletin board cell, these techniques can still improve the efficiency of the bulletin board system 119 and eliminate the need to have bulletin board cells implemented with virtually the same physical coverage as the target

communication system 111-117. Ultimately, this results in the ability to avoid having one bulletin board system 119 for each local communications system 111-117.

Obviously, the greater the accuracy of the geo-location process, the more accurate will be the selection of the local communications system 111-117, and the more efficient will be the provision of the bulletin board service, since unreachable local communications systems 111-117 will be eliminated before any download information, describing the unreachable target system, is required.

Once subscriber 120 has determined which system it desires to utilize, it will make a request to common communication system 119 and receive an enabling program for the selected communication system. Subscriber 120 will then open a channel 122 with the selected communication system, in this case Universal Mobile Telecommunication System (UMTS) 114.

The process of accessing the selected communication system is illustrated in more detail in FIG. 2, by a process, generally designated 200. Process 200 begins with step 202. This may be implemented when a user starts to make a call using a subscriber unit or when a user first enters an area covered by the common communication system. The subscriber 120 then accesses the common communication system, step 204. This may be performed passively, in that the subscriber unit may only monitor the information being transmitted by the common communication system. However, at some point, the subscriber unit 120 will need to request and be assigned to a channel of the common communication system 119.

Once the subscriber unit 120 has accessed the channel of the common communication system 119, it receives an indication of available communication systems within the coverage area of this common communication system 119, step 206, or within the coverage area of the subscriber unit 120. This indication of available systems may be general, as in a "GSM" system is available; or provide more detail, such as a "half-rate GSM" system is available or one with a particular feature. At this point, the common communication system 119 may also provide a list of any requirements of a particular communication system, step 208. Such requirements may include display capabilities, power, frequency band, modulation scheme, etc.

The preferred method of operating the a subscriber unit to access a preferred local communication system 111-117 such as the communications

systems shown in FIG. 1 is described in more detail hereinafter. As indicated above the common communications system is accessed, step 204, and an indication of available local communication systems is received, step 206. The local communications system information is related to all of the options and services for any number of the local communications systems 111-117. A geographic location of the subscriber unit 120 is determined step 302 (FIG. 3), together with a measure of uncertainty which is then used by the subscriber unit 120 or the common communication system 119 to extract, eliminate and/or filter, step 304, irrelevant information for the whole of the available information. Therefore, only information relating to preferred communications system is presented, step 306, to the subscriber unit 120. Generally, the information relating to the preferred local communications systems 111-117 will correspond to those local communications systems 111-117 available for that geographic location.

As described in better detail hereinafter, the subscriber unit 120 may then receive system requirements of one or more systems determined to be local, step 208. As will be evident to those skilled in the art, this provides a user of the subscriber unit 120 only with relevant and pertinent bulletin board information for those local communications systems 111-117 available in subscriber unit's geographic location. Thus, little or no extraneous bulletin board information need be presented to the user even if using a wide-area bulletin board network. Subsequently, this step would then be followed by a verification by the subscriber unit 120 that it is, or can be made, compliant with any of those requirements, step 210.

The subscriber unit 120 for this type of system is capable of being programmed over the air and may also be provided with stable memory of some pre-programmed systems. Depending upon the system selected and the resident programming of the subscriber unit, the subscriber unit 120 then determines if any non-resident programming is required, step 212. If programming is required, the subscriber unit 120 will request the programming from the common communication system 119, step 214. The common communication system 119 will respond by transmitting the enabling program, which will be received by the subscriber unit 120, subprocess 216.

Subprocess 214 will generally consists of one or more of the steps illustrated in FIG. 4. In order to be enabled to function on a selected communication system 114, the subscriber unit 120 may require certain

programming. This programming may be provided either by way of enabling functions that are already resident in the subscriber unit 120, step 402; or by providing non-resident functions, step 404. A type of resident function may be an indicator of what type of coding or encryption process is used by the selected system. The subscriber unit 120 would have several of these present in memory and only need to be told which one to utilize. An example of a non-resident function would be any new type of capability that may be added to the system. For example, a new type of hand-off algorithm may have been implemented since the subscriber unit's last memory update.

The non-resident function provided to the subscriber unit 120 may be provided either by providing a specification that can be executed directly by the subscriber unit 120; or by providing a high level design specification. If a high level design specification is provided, the subscriber unit 120 will generate, or elaborate, its own executable specification. As part of this, non-resident functions, once received, may be stored in a non-volatile memory thereby becoming resident functions. Along with this, older resident functions may be removed from the subscriber unit 120.

Returning now to FIG. 2, process 200 continues with step 218 where the subscriber unit 120 configures itself to operate on the selected communication system 114. When this occurs, the subscriber unit 120 may disconnect from the common communication system 119, or it may remain in contact. This would probably, but not necessarily, require a dual mode type of subscriber unit. This concept is known in the art and is currently available for subscriber units operating on both AMPS and ADC systems in the United States of America.

After the subscriber unit 120 has been configured, step 218, it will then test its compatibility, step 220, by determining if it meets any requirements of the selected communication system 114. If the test is satisfactory, the subscriber unit 120 will then access the selected communication system, step 222. This may be accomplished through the receipt of a hand-off instruction from the common communication system 119 or by a direct request from the subscriber unit 120. Once the access has been completed, process 200 ends, step 224.

Referring now to FIG. 5, a more detailed block diagram of common communication system 19 is provided. Common system 119 would preferably consist of RF equipment 502 as normally associated with any mobile communication system. The RF equipment 502 comprises an antenna 504

connected to a receiver 506 and a transmitter 508 via a duplexer 501. The receiver 506 and the transmitter 508 are both connected to a controller 510 which is also connected to an output of the RF equipment 502. A memory 512 is also connected to the controller 510. The particular protocol of operation is not important for the present invention, but would, for example, be a derivative of one of the basic type of system. Alternatively, the protocol may be a completely new design to maximize its efficiency. In addition, common system 119 would contain a system list 514 of other communication systems 111-117 available. The system list 514 may be a simple list of systems available or it may contain addition information on the individual systems. This additional information may be feature capabilities, system requirements, system cost, etc.

Common system 119 will also contain a feature list 516. This list would be in the form of a matrix having features cross referenced by subscriber unit capabilities. In addition, each feature would have either or both of an executable specification a high level design specification. This list would then be used to generate the programming information sent to the subscriber unit 120.

Common system 119 may also contain a system subscriber register 518 for all of the systems in the network. With this information, the common system 119 may determine if the subscriber unit 120 is permitted access to the selected communication system 114 before taking resources to provide the subscribe with the programming requested. It can also be used by the other systems, either by way of interconnect system 118 or directly by bus 123, to set-up billing information on the subscriber. An alternative method would be to locate this register with the individual systems.

The system list 514, the feature list 516 and the system subscriber register 518 are each connected to the RF equipment 502 via a bus 520.

In FIG. 6, a general block diagram of subscriber unit 120 is illustrated. Subscriber unit 120 has the typical duplex switch 604 for coupling an antenna 602 to transmitter 606 and receiver 608. Transmitter 606 is coupled to duplex switch 604 through an amplifier 610. Transmitter 606 and receiver 608 each have multi-loop synthesizers 612 and 614, respectively. Synthesizers 612 and 614 permit subscriber unit 120 to operate at different frequency ranges. It should be noted here, that while subscriber unit 120 is meant to be a generic, programmable type of radiotelephone, it is not necessarily meant to work in every possible system.

Moreover, the subscriber unit 120 further consists of a digital signal processor (DSP) 616, a controller 618, and a memory 620. When the enabling program is received from the common system 119, the controller 618 will use this to coordinate the programming of DSP 616. As described above, some of the functions may be resident in subscriber unit 120. For resident functions, the executable code will be retrieved from a memory 620, which may, if preferable, be physically located in DSP 616 or controller 618.

Finally, in FIG.s 7 and 8, a design of a subscriber unit 70 capable of utilizing the present invention is illustrated. Subscriber unit 70 is a combination personal data assistant (PDA) and radiotelephone. It consists of a display 71 and a keypad 72 which are each divided between two portions, 73 and 74, of PDA 70. Portions 73 and 74 are joined by a hinge 80 which permits the two portions to be closed upon each other, as illustrated in FIG. 8. On the outside of portion 74 is a speaker 76 and an microphone 77. Optional keys, or buttons, 78 are also provided on the outside portion to be used for certain general functions such as: call answer, call end, power on/off, etc.

In operation, when PDA 70 accesses the common system 19, a list of available systems 111-117 is displayed in display 71. The user can then select the system desired using the keypad. The process described above in FIG. 2 will then continue by providing enabling programming to PDA 70. PDA 70 may then be closed and used as a radiotelephone.

Thus, it will be apparent to one skilled in the art that there has been provided in accordance with the invention, a communications operating system and method of operation that fully satisfies the objects, aims, and advantages set forth above.

While the invention has been described in conjunction with specific embodiments thereof, it is evident that many alterations, modifications, and variations will be apparent to those skilled in the art in light of the foregoing description. Accordingly, it is intended to embrace all such alterations, modifications, and variations in the appended claims.

Claims

1. A method of operating a subscriber unit to access a preferred local communication system, said method characterized by the steps of:

accessing a common communication system;

receiving communication system information from said common communication system about at least one local communication system within the common communication system's coverage area;

determining the geographic location of the subscriber unit; and

filtering the communication system information to identify the preferred local communication system that is available in the geographic location of the subscriber unit; and

presenting the filtered information to the subscriber unit.

2. A method as claimed in Claim 1, further characterized by the step of: requesting access at the subscriber unit to the identified preferred local communication system.

3. A method as claimed in Claim 1, further characterized by the step of:

configuring the subscriber unit to operate in accordance with a protocol of said identified communication system.

4. A method as claimed in Claim 3, further characterized by:

requesting downloading of an enabling program from the common communication system and receiving the enabling program, and

loading the enabling program into a memory of the subscriber unit to enable operation of the subscriber unit in the identified system.

5. A method as claimed in Claim 1, wherein the common communication system is a satellite system, and further including the step of receiving information of geographic location from the satellite system.

6. A method as claimed in Claim 1, wherein the geographic location includes a geographic area and a tolerance area, and the step of filtering includes eliminating all systems that are outside of the tolerance area around the geographic location.

7. A method as claimed in Claim 1, 2 or 3 wherein the step of determining the geographic location includes receiving information from a global positioning system.

8. A method of operating a common communication system controller to inform at least one subscriber unit of local communication system information, said method comprising the steps of:

identifying the geographic location of the at least one subscriber unit;

determining if the at least one subscriber unit is configured to support a local communication system in the geographic location in which the at least one subscriber unit is located; and

presenting selective local communication system information to the at least one subscriber unit based on the geographic location.

9. A method as claimed in Claim 8, further comprising the step of:

downloading enabling software to enable operation of the at least one subscriber unit with the local communication system.

10. A method as claimed in Claim 8, further comprising the steps of:

supplying information on local systems to subscriber unit; and

receiving a selection of local system from the subscriber unit.

11. A method as claimed in Claim 8, wherein the step of identifying includes:

calculating the geographic location of the subscriber unit based upon the time period for the transmission of signals between the common communication system receiver and the at least one subscriber unit.

12. A method as claimed in Claim 8, wherein the step of identifying the geographic location includes receiving geographic position information from the at least one subscriber unit.

13. A method as claimed in Claim 8, wherein a controller in the common communication system identifies all of the local communications systems covering the geographic location of the at least one subscriber unit, said step of presenting further includes downloading operating information from at least one of the identified local communication systems selected by the at least one subscriber unit.

14. A configurable subscriber communications unit operable in at least one local communications system and receiving general information from a common communications system, comprising:

a receiver;

a transmitter;

a memory circuit; and

a controller coupled to the transmitter, the receiver, and the memory circuit, the controller responsive to the information received from the receiver to identify the geographic location of the subscriber communications unit, and the controller using the geographic location to selectively extract information from the general information such that only pertinent information relating to the at least one local communications system for the geographic location is presented to a user.

15. A common communication system for providing information on at least one local communications system, comprising:

a receiver;

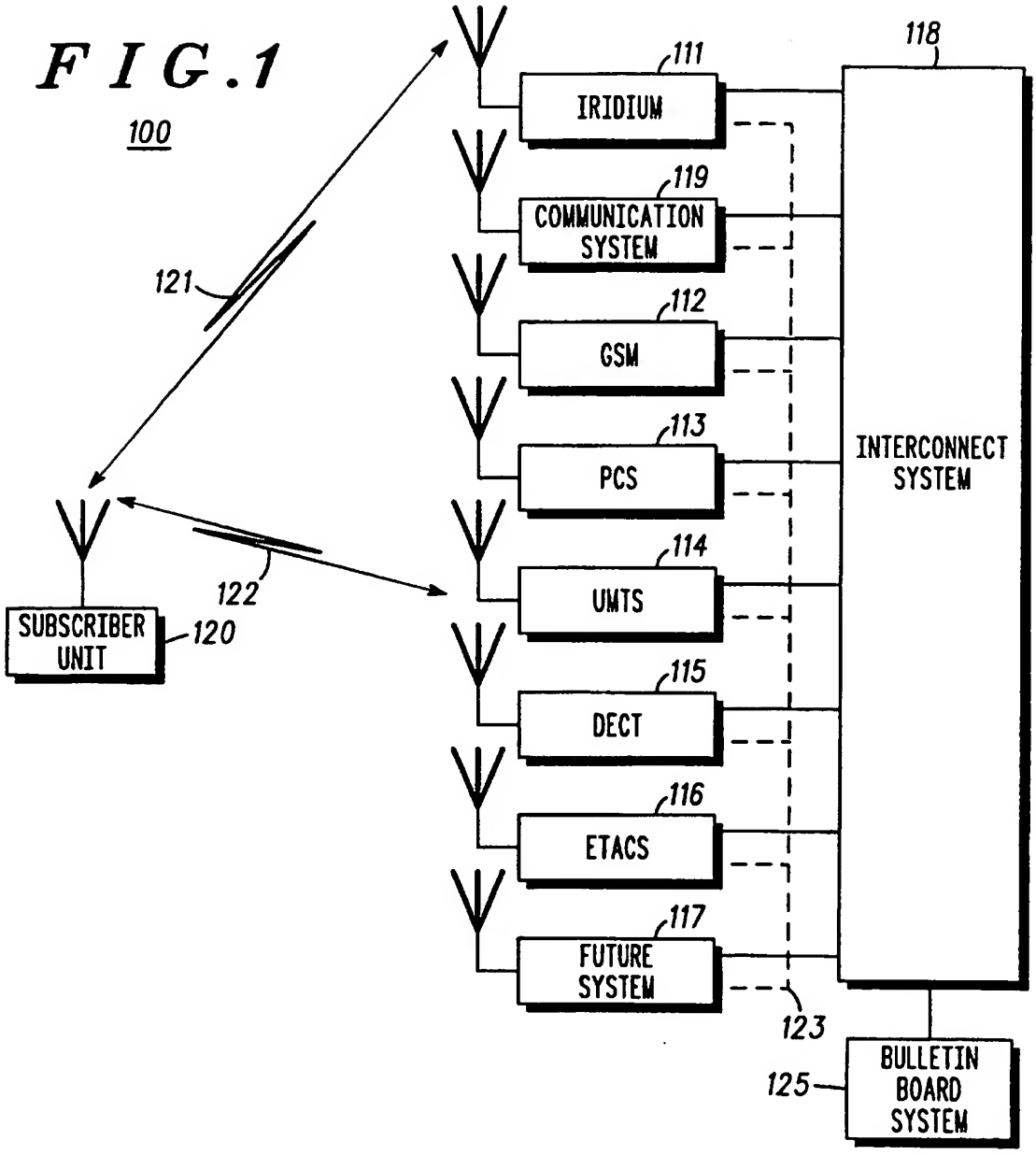
a transmitter;

a memory; and

a controller, characterised in that the controller is coupled to the receiver, the transmitter and the memory, the controller receiving geographic information for determining the geographic location of a subscriber terminal, and communicating operating information to the subscriber terminal for enabling operation of the subscriber terminal in the at least one local communication system where the subscriber terminal is located.

16. A common communication system as claimed in Claim 15, wherein the controller provides only selective operating information to the subscriber terminal pertinent to the subscriber terminal's geographic location.

FIG.1


100
111
IRIDIUM
118
119
COMMUNICATION SYSTEM
121
112
GSM
113
PCS
INTERCONNECT SYSTEM
114
UMTS
122
SUBSCRIBER UNIT
120
115
DECT
116
ETACS
117
FUTURE SYSTEM
123
125
BULLETIN BOARD SYSTEM

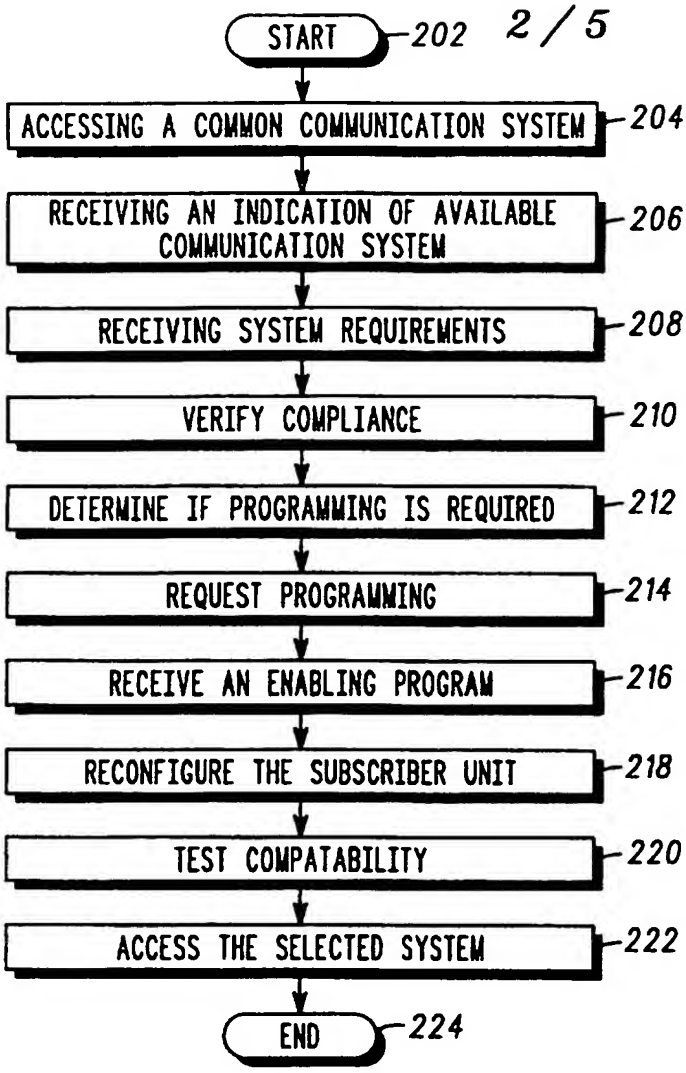


FIG. 2

200

FIG. 3

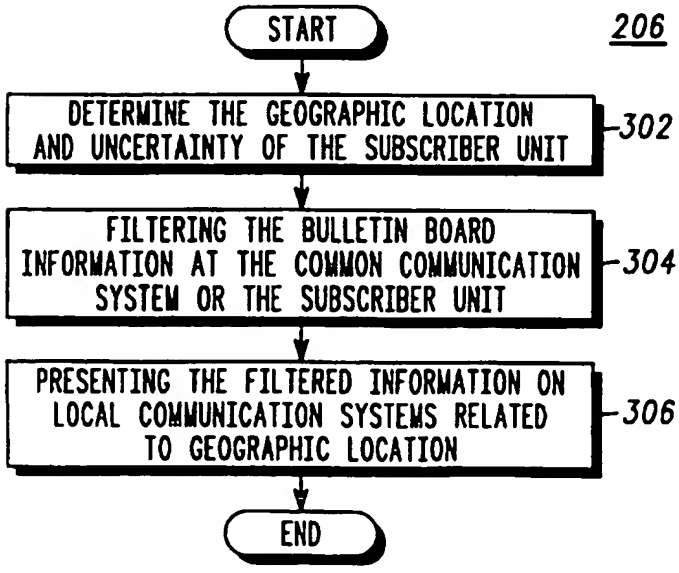


FIG.4

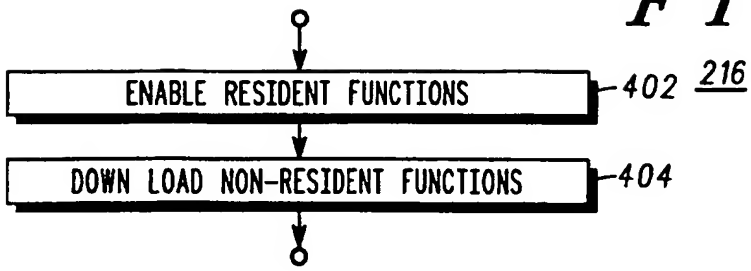


FIG.5

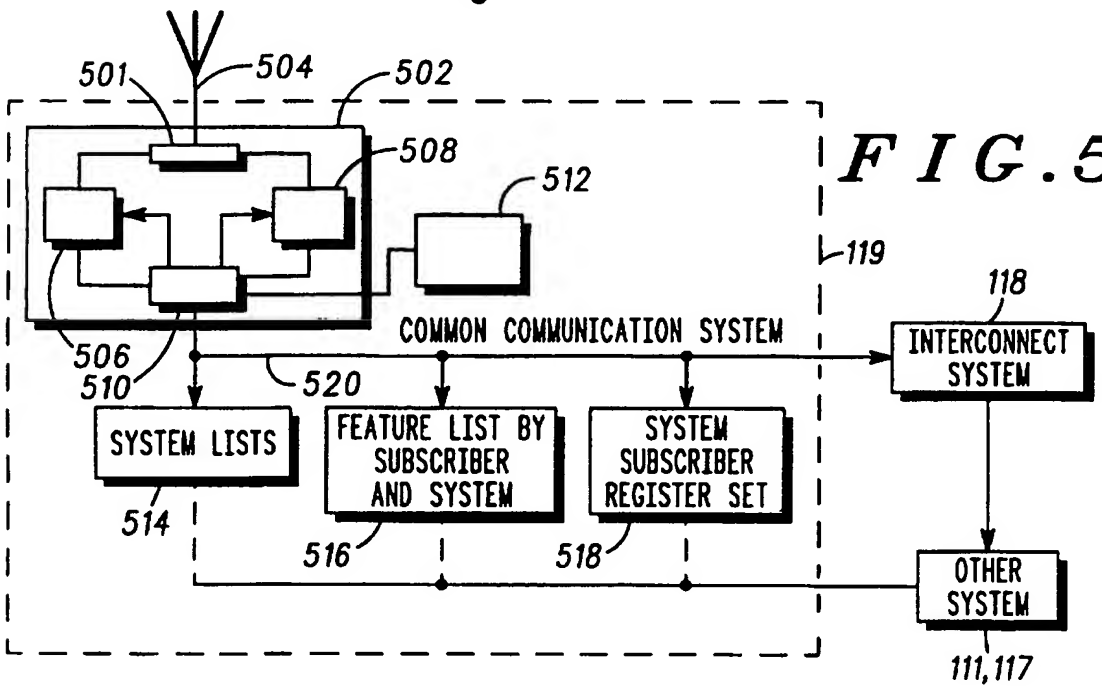
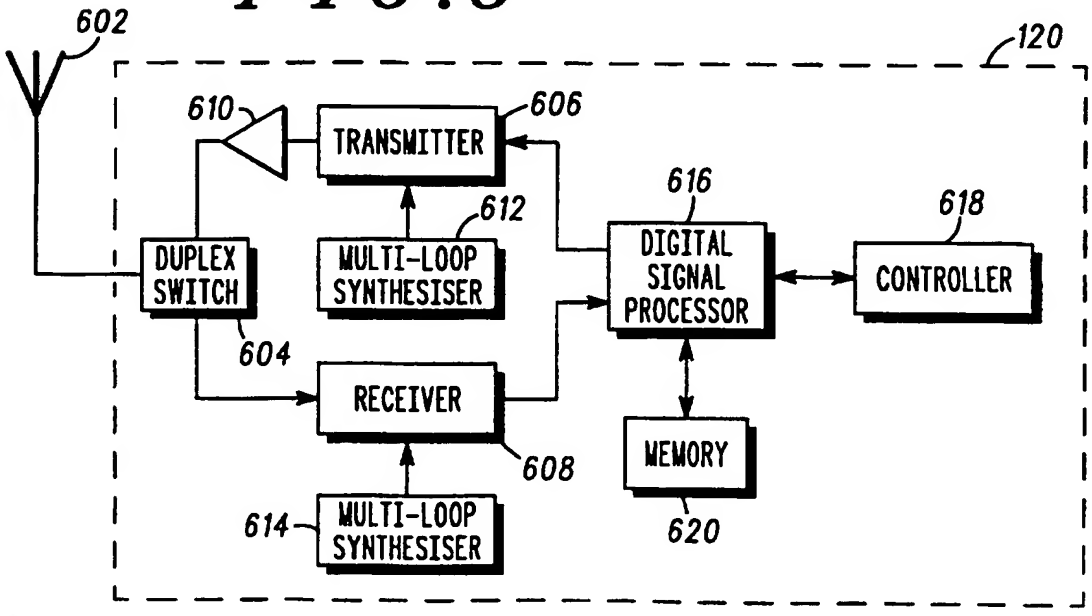


FIG.6



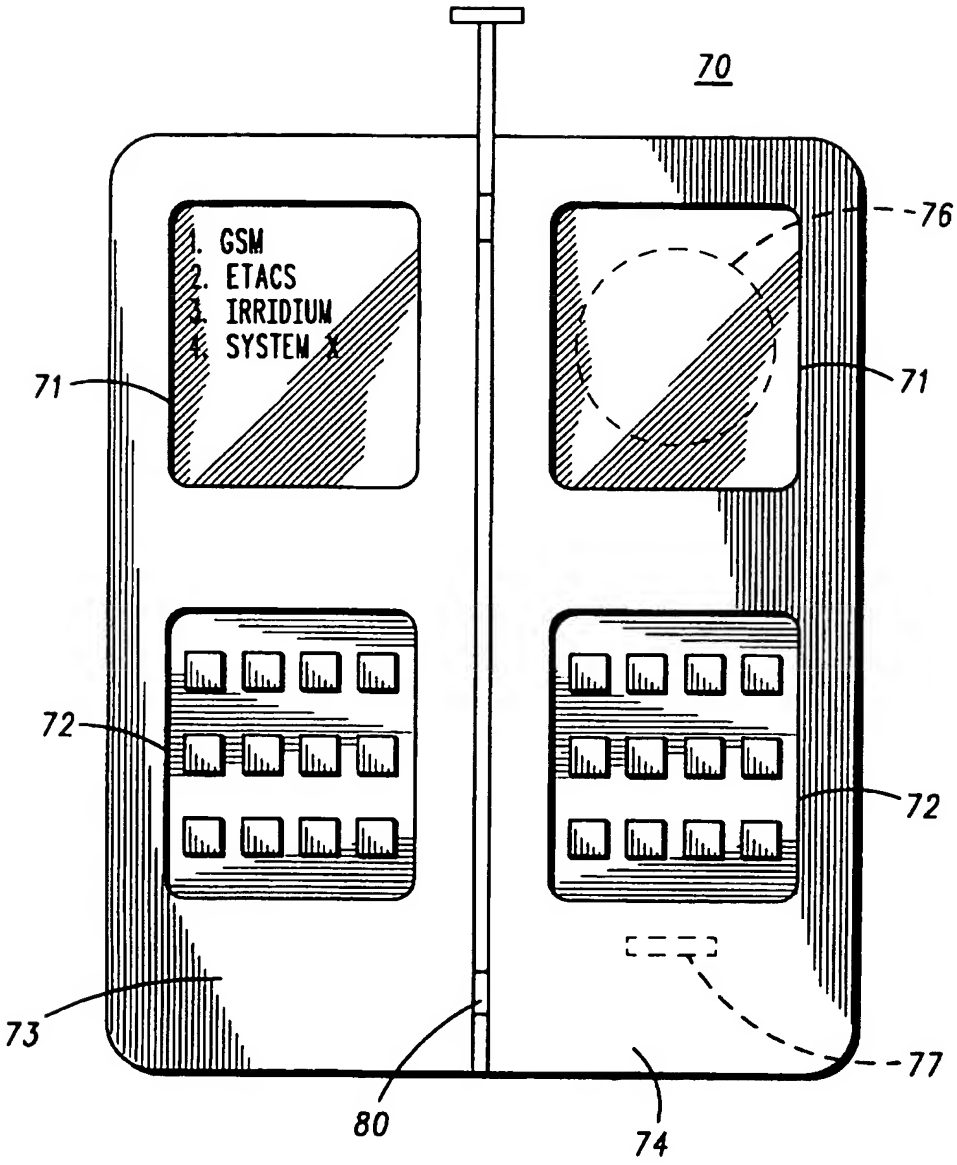


FIG.7

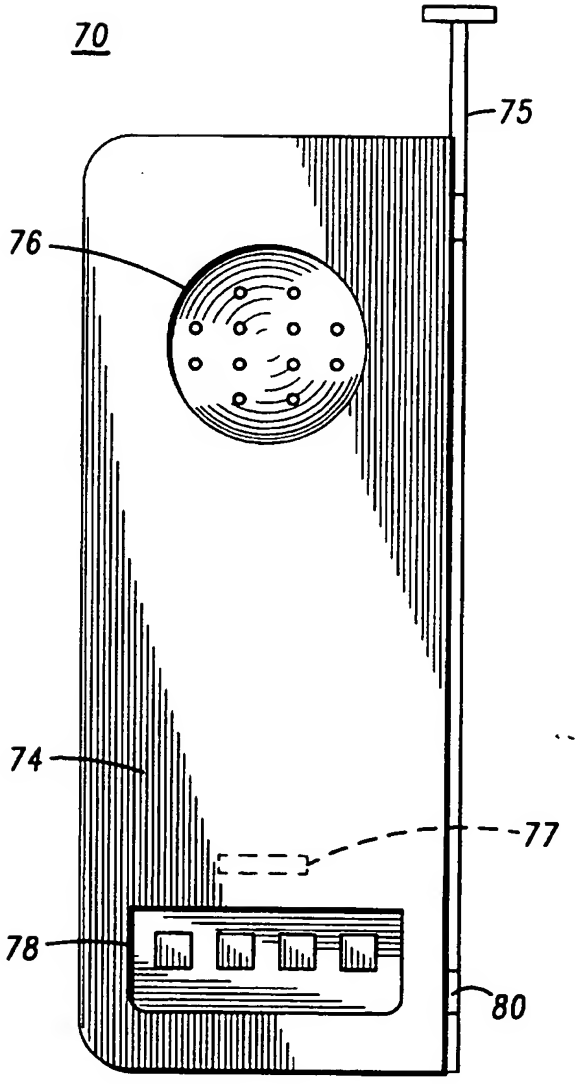


FIG.8

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(71) Applicant *(for all designated States except US)*: MOTOROLA LIMITED [GB/GB]; Jays Close, Viables Industrial Estate, Basingstoke, Hampshire RG22 4PD (GB).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: WHINNETT, Nicholas, William [GB/FR]; 7, rue de la Cerisale, F-75004 Paris (FR). ROBINSON, William, Neil [GB/FR]; 6, allée du Plantier du Roi, F-78860 Saint Nom la Breteche (FR). GIBBS, Jonathan, Alastair [GB/GB]; 56 Malvern Gardens, Hedge End, Southampton, Hampshire SO30 2UL (GB).

(74) Agents: DEARLING, Bruce et al.; Motorola, European Intellectual Property Operations, Midpoint, Alencon Link, Basingstoke, Hampshire RG21 7PL (GB).

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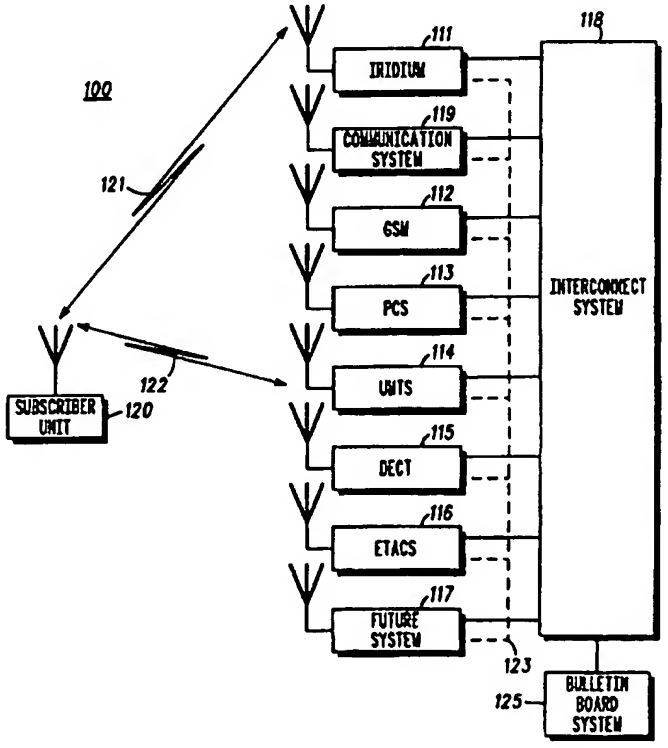
(57) Abstract

A common communications system (119) provides information regarding the availability of other local communication systems (111-117) within the common communications system coverage area to a generic, programmable subscriber unit (120). Geographical location information is then supplied to the common communications system (119) indicating position of the subscriber unit (120). The geographic information is used by either the common communication system (119) or subscriber unit (120) to provide information pertinent only to one or more local communications systems (111-117) that the subscriber unit (120) may select. The common communication system (119) or the subscriber unit (120) can also be used to selectively filter or extract information such that the information presented to the user is related to the geographical location. The subscriber unit (120) then selects one of the local communications systems (111-117) and receives enabling programming from that local communication system. The enabling programming permits the subscriber unit (120) to configure itself to operate on the selected communication system.



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INTERNATIONAL SEARCH REPORT

Interna d Application No
PCT/EP 97/02531

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B. FIELDS SEARCHED

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2 294 844 A (MOTOROLA INC) 8 May 1996 see page 3, line 22-34 see page 4, line 4 - page 5, line 34 see page 6, line 24 - page 7, line 20 see claims 1,2,3,9,1314,15 see figures 1,2,4,6 ---	1,8,14, 15
A	WO 95 24809 A (MOTOROLA INC) 14 September 1995 see page 3, line 6-24 see page 3, line 33 - page 4, line 6 see page 4, line 15-28 see page 5, line 35 - page 6, line 3 --- -/--	1,8,14, 15

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Date of the actual completion of the international search	Date of mailing of the international search report
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